



# Transportation Synthesis Report

Nina McLawhorn  
Research Administrator  
Wisconsin Department of Transportation  
608-266-3199  
[nina.mclawhorn@dot.state.wi.us](mailto:nina.mclawhorn@dot.state.wi.us)

## Contract Maintenance

*Prepared for*  
**Bureau of Highway Operations**  
**Division of Transportation Infrastructure Development**

*Prepared by*  
**CTC & Associates LLC**  
**WisDOT RD&T Program**  
**September 26, 2002**

*Transportation Synthesis Reports (TSRs) are brief summaries of currently available information on topics of interest to WisDOT technical staff in highway development, construction and operations. Online and print sources include NCHRP and other TRB programs, AASHTO, the research and practices of other state DOTs, and related academic and industry research.*

### **REQUEST FOR TSR REPORT**

WisDOT's Bureau of Highway Operations asked the RD&T Program to investigate the experience of other states and government organizations, national and international, with contracting highway maintenance services.

### **SUMMARY**

- A search of TRB publications, transportation Web sites, searchable databases and newspaper databases indicates a long-term growing trend toward privatization of highway maintenance services. State DOTs engage in activity-based contract maintenance quite extensively. However, contracts with management companies for complete maintenance responsibility, such as Virginia DOT's contract with VMS, have only appeared in the U.S. in the last five or six years. This trend is connected, at least in part, to the growing emphasis on transportation asset management.
- An international review indicates that Canada, the U.K. and other European countries engage in far more highway maintenance contracting than the U.S.
- The TRB studies listed below are somewhat dated but contain careful documentation and extensive bibliographies for potential follow-up analysis. The most recent (1997) TRB study on the topic indicated state DOTs report a mixed cost-benefit experience, although little hard data is available. Maintenance savings estimates by service providers and think tanks range from 15 percent to 50 percent.
- Frank Lisle, staff person for TRB Committee A3C01 on Maintenance and Operations Management, is an excellent resource: 202-334-2950.
- Dean Testa, Chief of Construction and Maintenance for Kansas DOT and a member of A3C01, has cautions about the cost-benefit advantages of contracting total responsibility for maintenance of roadway sections: 785-296-3576.
- The experiences of two state DOTs—Massachusetts and Colorado—are highlighted as examples of successful maintenance contracting. (BHO has already reviewed Virginia's program in detail.) Florida, Arizona and Pennsylvania were mentioned in the NCHRP Synthesis 246 as having formal decision-making models for deciding when and what to contract out.
- PennDOT's recent experience with "agility agreements" and "agile maintenance enterprises" with counties and municipalities may be helpful to WisDOT in shaping more flexible relationships with local partners.
- Finally, we provide a few facts about three large maintenance contracting firms—VMS, Inc., ICA and Opus International—and information from a privatization institute.

## **TRB STUDIES**

The 1997 NCHRP Synthesis 246 *Outsourcing of State Highway Facilities and Services* includes helpful information from the 34 states that responded to the synthesis survey. (Wisconsin was not among them). Of the states surveyed, 21 indicated they outsourced at least some maintenance activities, some as high as 100 percent. Little cost-benefit data was available. The synthesis report includes in Appendix E an excerpt from PENNDOT's *Maintenance Contractability Manual* designed to assist in calculating contracting potential for particular maintenance activities. The WisDOT Library copy of Synthesis 246 is provided with this report.

The 1991 NCHRP Report 344 *Maintenance Contracting* compiled best practices (at the time) from 42 states, 7 Canadian provinces, several local agencies and 29 contractors. "Guidelines for Contracting Maintenance Services," supplied in Appendix A, provides detailed help on deciding what activities to contract, selecting contractors, contract administration, training for inspectors, forms, etc. This information may be slightly more current than what is contained in the 1987 AASHTO publication, *A Guide for Methods and Procedures in Contract Maintenance*, which BHO is consulting.

The 1986 NCHRP Synthesis 125 *Maintenance Activities Accomplished by Contract* is of historical interest, providing a snapshot of practices at the time. The report refers even further back to the 1973 AASTHO Maintenance Aid Digest No. 4 on *Highway Maintenance by Contract*. Survey results published in this latter publication indicated that contract maintenance expenditures had increased from 7.2 percent of total maintenance expenditures in 1959 to 14.3 percent by 1972.

## **INTERNATIONAL.**

Canada, the U.K., and Europe lead efforts to privatize highway maintenance. Canada has been privatizing maintenance for well over a decade. British Columbia began outsourcing in 1988. Ontario and Alberta outsource maintenance, and Nova Scotia had privatized 30 percent of its maintenance by 2000. England and, to some extent, Scotland have outsourced for years. Ireland entertains bids. Spain recently put its entire system up for maintenance bids. A handful of companies compete for European contracts: Autoroutes de Sud de la France, Autostrada (Italy), Acesa (Spain) and Opus International (New Zealand).

## **MASSACHUSETTS**

Since 1991, the Massachusetts Highway Department has outsourced highway maintenance in portions of its highways system. The practice has expanded this year to 50 percent state, 50 percent outsourcing. According to the Fairfield County Business Journal, outsourcing between 1991 and 1999 precipitated a drop in maintenance budgets from \$40 million to \$25 million, while maintenance projects increased. MassHighway says that the shift toward half privatization triggered an increase in productivity among the state maintenance work force. A parallel savings was enjoyed in diminished need to purchase new equipment. For a state report on a Worcester County contract expected to save \$1.7 million, see [www.state.ma.us/sao/privpage.htm#Massac](http://www.state.ma.us/sao/privpage.htm#Massac).

MassHighway Operations Engineer David Rock indicates that outsourcing has been a "very positive" experience. Contracting duties are typically of the same sort as those also performed by DOT crews: mowing, sweeping, catch basin cleaning, sign installation, patching, sealing, etc. as directed on item-based contracts with prequalified contractors.

For more information: David Rock, MassHighway operations engineer – 617-973-8822.

## **COLORADO**

The Colorado DOT Web site claims it "depends heavily on the private sector" and "does more work with private businesses-contractors, design-engineering firms and vendors than any other state agency." However, CDOT outsources only peripheral maintenance duties on a regular basis, such as mowing and fence repair. Once each year, CDOT assesses maintenance needs of surfaces—machine patching, crack sealing, etc.—and, if it determines its crews will be overtaxed by the demand, turns to its prequalified contractors for assistance.

For more information contact the Colorado DOT maintenance superintendent, Ed Fink (303-273-1842) or chief engineer John Unbewust (303-757-9204). A list of current and predicted bids can be found in a weekly update at [www.dot.state.co.us/Bidding/WeeklyBids.htm](http://www.dot.state.co.us/Bidding/WeeklyBids.htm).

## **PENNSYLVANIA**

PENNDOT's *Maintenance Contractability Manual* excerpted in the NCHRP Synthesis 246 indicates that the department "has been contracting progressively more of its maintenance needs since the mid-seventies...due to maintenance force reductions...and the recognition by the Department that it can be more cost effective to contract maintenance activities." PENNDOT's 1997 creation of "agile maintenance enterprises" has received national attention and awards from AASTHO, the American Public Works Association and the Kennedy School of Government. The program relies heavily on contracts with county and municipal governments, but it is not immediately clear how private-sector service providers fit in. Answers to "Most Asked Questions" about the program are attached as a supplement to this report and can be accessed online at [www.dot.state.pa.us](http://www.dot.state.pa.us). (Select Doing Business with PENNDOT—select Agility Program—select MFQ.)

## **VIRGINIA MAINTENANCE SERVICES, INC.**

VMS, Inc., based in Richmond, Virginia, is the most prominent of American maintenance firms to win bids for outsourced highway maintenance. It emerged as a player in 1997 when it began a five-year contract with Virginia DOT to maintain 250 lineal miles of interstates, a \$131.6 million contract that VMS estimated will save the state \$22 million. VMS says on its Web site at <http://www.vmsom.com/projects/st-public-hwy.asp> that it "invented the concept of privatized highway asset management of highways" and provides links to descriptions of current contracts in Alaska, Florida, Oklahoma, Texas, Virginia and Washington, D.C. The D.C. contract is for five years, at a cost of \$70 million, to care for 340 lane-miles of roads that comprise the District's portion of the National Highway System. VMS is responsible for eight tunnels, pavements, bridges, pedestrian bridges, weigh-in-motion stations, curbs, gutters, sidewalks, retaining walls, guardrails, barriers, attenuators, pavement markings, signs and lighting.

There have been some unfavorable news reports of VMS performance, such as litter problems in Dallas on VMS-maintained highways. Early in 2002, VMS and Oklahoma voided their five-year contract to fill potholes, remove snow and ice, etc.—after less than a year—due to disagreements on the scope and performance of the contract. A brief synopsis of the Oklahoma situation from the viewpoint of the public employees union may be found at [www.afscme.org/wrkplace/sale08.htm](http://www.afscme.org/wrkplace/sale08.htm).

## **INFRASTRUCTURE CORPORATION OF AMERICA**

Based in Nashville, Tennessee, ICA currently has \$160 million in contracts with Florida DOT for road maintenance and toll operation. Marshall Stivers, retired Florida DOT maintenance engineer, is helping ICA reach out to other state DOTs. Marshall, who is well known to BHO (David Vieth and Allison Lebwohl), can be reached at 850-212-6914. ICA's Web site is at <http://www.ica-onramp.com>.

## **OPUS INTERNATIONAL**

Based in New Zealand and operating primarily in Europe and Asia, Opus has a highway asset management group that is currently under contract to maintain roads in New Zealand, parts of Western Australia, Malaysia and England. Its Web site at <http://www.opus.co.nz/markets/road/higass.htm> has useful information, in particular the 2001 TRB paper by Opus consultant Tony Porter (available as a PDF file at <http://www.opus.co.nz/pubs/tporter.pdf>.) The paper provides a brief, clear overview of contract maintenance, defining and discussing key terms, such as:

- Performance Specified Maintenance Contracts (PSMC)
- Input-driven contracts
- Output-driven contracts
- Risk assigned to contractor
- Cost savings

### **REASON PUBLIC POLICY INSTITUTE**

The Reason Public Policy Institute, a Los Angeles-based organization often mentioned in news reports of privatization efforts around the country, maintains a Web site with information relevant to transportation issues at <http://www.rppi.org/transportation/index.html>. For example, its April 2001 Policy Study 282, *Competitive Cities: A Report Card on Efficiency in Service Delivery in America's Largest Cities*, includes street maintenance as one of the services evaluated.

An RPPI-related Web site, [www.privatization.org](http://www.privatization.org), cites a 1995 survey of 120 local governments in 34 states. Outsourcing for road maintenance had climbed to 37 percent of the polled cities. Savings vary from 25 to 50 percent for governments outsourcing road maintenance; highway maintenance costs about half what it would in house.

Three successful case studies are reported. In Laguna Niguel, California, complaints dropped when certain maintenance functions were privatized in 1993, response times dropped from 56 days to 6.5 days, and the city began saving \$250,000 from the first year. In Indianapolis, Indiana the city found that even streamlined crews had to account for bureaucratic overhead cut out by privatization. When British Columbia privatized in 1988 (bids went out in 1987), it gave former employees priority on bids.

To access the above information and more on [www.privatization.org](http://www.privatization.org), look for Specific Service Areas, click on “and more...” Then click Road Maintenance under Local Services. The State Services link is under construction.